## *Amendments to the Claims*

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (currently amended) A method for detecting a target DNA or RNA polynucleotide, said method comprising:

(a) incubating said target polynucleotide with an initiator wherein said initiator is a mononucleoside, mononucleotide, dinucleotide or trinucleotide or analog thereof, an RNA polymerase, and a terminator, under conditions whereby a bubble complex forms and said initiator hybridizes with said target polynucleotide;

(b) extending said initiator until said terminator is incorporated into said oligonucleotide, by the process of abortive transcription;

(c) repeating steps (a) and (b), thereby synthesizing multiple reiterative oligonucleotide transcripts from said target polynucleotide; and

(d) detecting or quantifying said reiterative oligonucleotide transcripts, wherein the presence of said reiterative oligonucleotide transcripts is indicative of the presence of said target DNA or RNA polynucleotide.

2. (previously presented) The method of claim 1, further comprising detecting or quantifying said reiterative oligonucleotide transcripts by modifying a nucleoside or nucleotide in at least one of the members selected from the group consisting of said terminator and said initiator.

3. (original) The method of claim 2, wherein said modifying comprises incorporating a label moiety.

4. (original) The method of claim 3, wherein said label moiety comprises a fluorophore moiety.

5. (original) The method of claim 4, wherein said fluorophore moiety comprises a

fluorescent energy donor and a fluorescent energy acceptor wherein said moiety is detected or quantified by fluorescence resonance energy transfer.

6. (currently amended) The method of claim 1, wherein said polymerase is selected from the group consisting of: a DNA-dependent RNA polymerase, an RNA-dependent RNA polymerase, a modified RNA polymerase, and ~~a primase~~ an RNA polymerase that is the product of dnaG gene.

7. (previously presented) The method of claim 6, wherein said polymerase comprises an RNA polymerase derived from one of *E. coli, E. coli* bacteriophage T7, *E. coli* bacteriophage T3, and *S. typhimurium* bacteriophage SP6.

8-9. (cancelled)

10. (previously presented) The method of claim 1, wherein said reiterative oligonucleotide transcripts being synthesized are one of the lengths selected from the group consisting of: about 2 to about 100 nucleotides.

11. (previously presented) The method of claim 1, wherein said incubating further comprises a target site probe specific for a region on said target polynucleotide.

12. (previously presented) The method of claim 1, wherein said chain terminator comprises a nucleotide analog.

13-84. (cancelled)

85. (previously presented) The method of claim 1, wherein said target polynucleotide is DNA.

86. (previously presented) The method of claim 85, further comprising modifying at least one of said initiator or nucleotides used to extend said initiator to enable detection

of said reiterative nucleotide transcripts.

87. (previously presented) The method of claim 86, wherein modifying comprises incorporating an independently selected label moiety into at least one of said initiator and said nucleotides.

88. (previously presented) The method of claim 87, wherein said label moiety comprises a fluorophore moiety.

89. (original) The method of claim 88, wherein detecting comprises detecting by fluorescence resonance energy transfer and said fluorophore moiety comprises one of a fluorescent energy donor and a fluorescent energy acceptor.

90. (withdrawn) The method of claim 85, wherein said polymerase is selected from the group consisting of *Escherichia coli* DNA polymerase, T7 DNA polymerase, T4 DNA polymerase, *Taq* thermostable DNA polymerase, terminal transferase, and telomerase.

91. (cancelled)

92. (previously presented) The method of claim 85, wherein said reiterative oligonucleotide transcripts comprises from about 2 to about 26 nucleotides.

93. (previously presented) The method of claim 85, wherein said detecting comprises hybridizing a complementary sequence to the synthesized reiterative oligonucleotide transcript.

94. (original) The method of claim 93, wherein said complementary sequence is modified to comprise an independently selected label moiety.

95. (original) The method of claim 94, wherein said label moiety comprises a

fluorophore moiety.

96. (previously presented) The method of claim 85, further comprising immobilizing said target sequence.

97. (previously presented) The method of claim 96, wherein immobilizing comprises hybridizing a capture probe to a portion of said target sequence.

98-99. (cancelled)

100. (previously presented) The method of any one of claims 4, 88, or 95 wherein said fluorophore moiety is selected from the group consisting of: 4-acetamido-4'-isothiocyanatostilbene-2,2'disulfonic acid; acridine and derivatives: acridine, acridine isothiocyanate; 5-(2'-aminoethyl)amninonaphthalene-1-sulfonic acid (EDANS); 4-amino-N-[3-vinylsulfonyl)phenyl]naphthalimide-3,5 disulfonate; N-(4-amino-1-naphthyl)maleimide; anthranilamide; BODIPY; Brilliant Yellow; coumarin, and derivatives: coumarin, 7-amino-4-methylcoumarin (AMC, Coumarin 120), 7-amino-4-trifluoromethylcouluarin (Coumaran 151); cyanine dyes; cyanosine; 4',6-diaminidino-2-phenylindole (DAPI); 5', 5"-dibromopyrogallol-sulfonaphthalein (Bromopyrogallol Red); 7-diethylamino-3-(4'-isothiocyanatophenyl)-4-methylcoumarin; diethylenetriamine pentaacetate; 4,4'-diisothiocyanatodihydro-stilbene-2,2'-disulfonic acid; 4,4'-diisothiocyanatostilbene-2,2'-disulfonic acid; 5-[dimethylamino]naphthalene-1-sulfonyl chloride (DNS, dansylchloride); 4-dimethylaminophenylazophenyl-4'-isothiocyanate (DABITC); eosin and derivatives: eosin, eosin isothiocyanate; erythrosin and derivatives: erythrosin B, erythrosin, isothiocyanate; ethidium; fluorescein and derivatives: 5-carboxyfluorescein (FAM),5-(4,6-dichlorotriazin-2-yl)aminofluorescein (DTAF), 2',7'-dimethoxy-4'5'-dichloro-6-carboxyfluorescein (JOE), fluorescein, fluorescein isothiocyanate, QFITC, (XRITC); fluorescamine; IR144; IR1446; Malachite Green isothiocyanate; 4-methylumbelliferoneortho cresolphthalein; nitrotyrosine; pararosaniline; Phenol Red; B-phycoerythrin; o-phthaldialdehyde; pyrene and derivatives: pyrene, pyrene butyrate, succinimidyl 1pyrene; butyrate quantum dots;

Reactive Red 4; rhodamine and derivatives: 6-carboxy-X-rhodamine (ROX), 6-carboxyrhodamine (R6G), lissamine rhodamine B, sulfonyl chloride rhodamine (Rhod), rhodamine B, rhodamine 123, rhodamine X isothiocyanate, sulforhodamine B, sulforhodamine 101, sulfonyl chloride derivative of sulforhodamine 101 (Texas Red); N,N,N',N'-tetramethyl-6-carboxyrhodamine (TAMRA); tetramethyl rhodamine; tetramethyl rhodamine isothiocyanate (TRITC); riboflavin; rosolic acid; terbiun chelate derivatives; Cy 3; Cy 5; Cy 5.5; Cy 7; IRD 700; IRD 800; La Jolla Blue; phthalo cyanine; and naphthalo cyanine.

101. (withdrawn) A method for detecting multiple reiterated oligonucleotides from a target DNA or RNA polynucleotide, said method comprising:

(a) incubating a single-stranded target polynucleotide in a mixture comprising an initiator, and an RNA polymerase;

(b) synthesizing multiple oligonucleotide transcripts from said target polynucleotide, wherein said initiator is extended until terminated due to nucleotide deprivation, thereby synthesizing multiple abortive reiterative oligonucleotide transcripts; and

(c) detecting or quantifying said reiterative oligonucleotide transcripts.

102-114. (cancelled)

115. (previously presented) The method of claim 1, wherein said target polynucleotide is RNA.

116. (previously presented) The method of claim 115, further comprising synthesizing multiple reiterative oligonucleotide transcripts by modifying a nucleotide in at least one of the members selected from the group consisting of said terminator, and said initiator.

117. (original) The method of claim 116, wherein said modifying comprises incorporating a label moiety.

118. (original) The method of claim 117, wherein said label moiety comprises a fluorophore moiety.

119. (original) The method of claim 118, wherein said fluorophore moiety comprises a fluorescent energy donor and a fluorescent energy acceptor.

120. (previously presented) The method of claim 115, wherein said polymerase is selected from the group consisting of: an RNA-dependent RNA polymerase and a modified RNA-polymerase.

121. (original) The method of claim 120, wherein said polymerase comprises an RNA polymerase derived from one of *E. coli, E. coli* bacteriophage T7, *E. coli* bacteriophage T3, and *S. typhimurium* bacteriophage SP6.

122. (cancelled)

123. (previously presented) The method of claim 115, wherein said reiterative oligonucleotide transcripts being synthesized are of a length of about 2 to about 100 nucleotides.

124. (previously presented) The method of claim 115, wherein said incubating further comprises a target site probe specific for a region on said target polynucleotide.

125. (previously presented) The method of claim 115, wherein said terminator comprises a nucleotide analog.

126. (previously presented) The method of any one of claims 1 and 115, wherein said incubating further comprises in the presence of ribonucleotides.

127. (original) The method of claim 126, wherein said ribonucleotides are modified.

128. (original) The method of claim 127, wherein said modifying further comprises incorporating an independently selected label moiety.

129. (original) The method of claim 128, wherein said label moiety comprises a fluorophore moiety.

130-134. (cancelled)

135. (previously presented) The method of any one of claims 1, 85 and 115, wherein said initiator is selected from the group consisting of: nucleosides, nucleoside analogs, nucleotides, and nucleotide analogs.

136. (cancelled)

137. (withdrawn) The method of claim 136, wherein said polymerase is a DNA-dependent DNA polymerase.

138. (withdrawn) A method for synthesizing multiple reiterative oligonucleotide transcripts comprising:

(a) hybridizing a single stranded target polynucleotide with an abortive promoter cassette comprising a sequence that hybridizes to the single stranded target polynucleotide, and a region that can be detected by transcription by a polymerase;

(b) incubating said target polynucleotide with an RNA polymerase and an initiator;

(c) synthesizing an oligonucleotide transcript that is complementary to the initiation start site of said abortive promoter cassette, wherein said initiator is extended until termination occurs through nucleotide deprivation; thereby synthesizing multiple reiterative oligonucleotide transcripts; and

(d) detecting or quantifying said multiple reiterative oligonucleotide transcripts.

139. (withdrawn) The method of claim 138 further comprising:
(a) immobilizing a capture probe designed to hybridize with a target polynucleotide in said test sample;
(b) hybridizing said capture probe with a test sample that potentially contains said target polynucleotide.

140. (previously presented) The method of any one of claims 1 and 115 wherein the target polynucleotide is RNA.

141. (previously presented) The method of claim 140, wherein the RNA is mRNA.

142. (previously presented) The method of claim 140, wherein the RNA polymerase is an RNA-dependent RNA polymerase.

143. (previously presented) The method of claim 142, wherein the RNA-dependent RNA-polymerase is poliovirus RNA polymerase.

144. (previously presented) The method of claim 140, further comprising (a) incubating said target RNA with a reverse transcriptase enzyme.

145. (previously presented) The method of any one of claims 1 and 115, comprising incubating said target polynucleotide with additional ribonucleotides.

146. (previously presented) The method of claim 145, wherein said ribonucleotides are modified.

147. (previously presented) The method of claim 146, wherein said modification comprises the incorporation of a labeling moiety.

148. (previously presented) The method of any of claims 1 and 115, wherein the target

nucleic acid is from a virus.

149. (previously presented) The method of claim 148, wherein the nucleic acid is RNA.

150. (previously presented) The method of any one of claims 1 and 115, wherein the target nucleic acid is from a bacterium.

151. (previously presented)The method of claim 1, wherein the initiator is 1-3 bases in length.

152. (previously presented)The method of claim 151, wherein the initiator is one base in length.

153. (previously presented)The method of claim 151, wherein the initiator is two bases in length.

154. (previously presented)The method of claim 151, wherein the initiator is three bases in length.

155. (currently amended) A method for synthesizing multiple reiterative oligonucleotide transcripts comprising:

(a) hybridizing a single stranded target polynucleotide with a second polynucleotide comprising a sequence that hybridizes to the single

stranded target polynucleotide, and a region that can be detected by transcription by a polymerase;

(b) incubating said target polynucleotide with an RNA polymerase and an initiator wherein said initiator is a mononucleoside, mononucleotide, dinucleotide or trinucleotide or analog thereof wherein a bubble complex forms and said initiator hybridizes with said polynucleotide;

(c) synthesizing an oligonucleotide transcript that is complementary to a region of the second polynucleotide in (a), wherein said initiator is extended until termination occurs; thereby synthesizing multiple reiterative oligonucleotide transcripts; and

(d) detecting or quantifying said multiple reiterative oligonucleotide transcripts.

156. (new) A method for detecting a target DNA or RNA polynucleotide, said method comprising:

(a) incubating said target polynucleotide with an initiator wherein said initiator is a tetranucleotide, pentanucleotide, hexanucleotide or analog thereof, an RNA polymerase, and a terminator, under conditions whereby a bubble complex forms and said initiator hybridizes with said target polynucleotide;

(b) extending said initiator until said terminator is incorporated into said oligonucleotide, by the process of abortive transcription;

(c) repeating steps (a) and (b), thereby synthesizing multiple reiterative oligonucleotide transcripts from said target polynucleotide; and

(d) detecting or quantifying said reiterative oligonucleotide transcripts, wherein the presence of said reiterative oligonucleotide transcripts is indicative of the presence of said target DNA or RNA polynucleotide.